

Science of Signatures (SoS)

Advanced Studies Scholars Institute

April 13-May 1, 2015

Los Alamos Research Park (TA-03, Bldg. 4200)
Suite 101 (Visualization Lab), Suite 300 (Work Areas), Suite 301 (Offices)

Program Overview

Week 1

- Monday, April 13** Orientation and Introductions
Tuesday, April 14 Applications of RF to National Security Interests (William Junor)
 Proposal Writing (Dave Clark)
Wednesday, April 15 Metallurgy of Additive Manufacturing (Thomas Lienert)
 Multiscale Image Decomposition & Analysis of Shapes (Lakshman Prasad)
Thursday, April 16 Making Next Generation Biofuel Systems Work (Richard Sayre)
 Proposal Writing and Living in Northern New Mexico (Bill Priedhorsky)
Friday, April 17 ARPA-E Perspective on Writing Proposals (Michael Kane)
 Giving Presentations & Preparing Lectures (Phil Cornwell)

Week 2

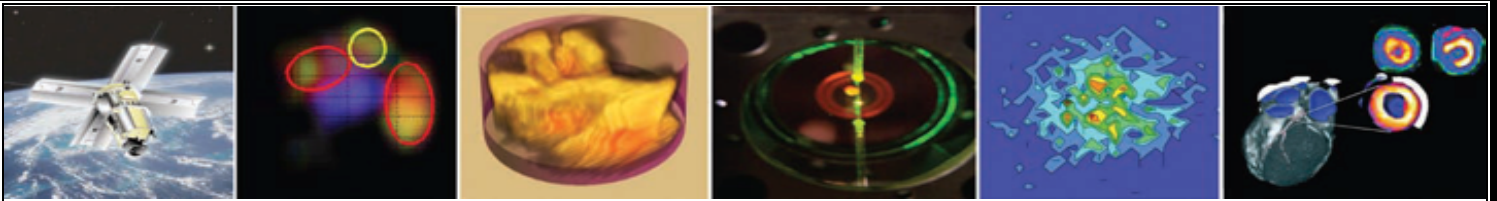
- Monday, April 20** Modeling Additive Manufacturing/Welding ((Tarasankar DebRoy)
 Tech Transfer (Kathleen McDonald)
Tuesday, April 21 GET Test-out
 Acoustic Resonance Spectroscopy (Albert Migliori)
Wednesday, April 22 Neutron Radiography – Opportunities & Examples (Mark Bourke)
 International Collaborations (Momchilo Vuyisich)
Thursday, April 23 Air, Land and Body-borne Sensors: Knowledge Discovery through Ambient
 Inferencing (Pei Zhang)
 Design Thinking (David Mascareñas)
Friday, April 24 High Performance Control Using Low-Performance Infrastructure
 (Todd Murphey)
 Excellence in Instruction as Proof of Excellence in Research
 (Todd Murphey)

Week 3

- Monday, April 27** Mobile Brain Imaging & Psychopathy (Kent Kiehl)
 Management Panel (Dan Rees, Steve Girrens, John Erickson)
Tuesday, April 28 Molecular Biology and Recent Breakthroughs in Bacterial Expression at UC
 (Danielle Tullman-Ercek)
 Building a Research Program within a National Laboratory Setting
 (Michelle Espy)
Wednesday, April 29 Machine Learning Over Simulation Data (Paul Welch)
 Faculty Life at a Research University: What to Expect and How to Survive
 (Mike Todd)
Thursday, April 30 Presentations
Friday, May 1 Feedback and Improvement Discussion

Student Projects

Due Dates: Penta Charts 4/23, ER Proposals 4/28, Presentations 4/30



A G E N D A

Monday, April 13, 2015

07:30 – 08:45	Badging, LANL Badge Office, Otowi Building
08:45 – 09:00	Proceed to Los Alamos Research Park, Suite 101
09:00 – 09:15	Design Thinking Warm-up (David Mascareñas)
09:15 – 09:30	Administrative Issues
09:30 – 10:00	Program Introduction (David Mascareñas)
10:00 – 12:00	Introductions <ul style="list-style-type: none"> - Engineering Institute (David Mascareñas) - Science of Signatures (SoS) Program (Gene Peterson) - Student Bio Presentations
12:00 – 01:00	<i>Lunch, Suite 300 Break Room</i> (will be provided)
01:00 – 02:00	Experiences from a National Laboratory Career (Chuck Farrar)
02:00 – 02:30	Security Export Control Issues (Andrew Wall/Bud Schulz)
02:30 – 03:00	<i>Break</i>
03:00 – 05:00	Meet with Mentors

Tuesday, April 14, 2015

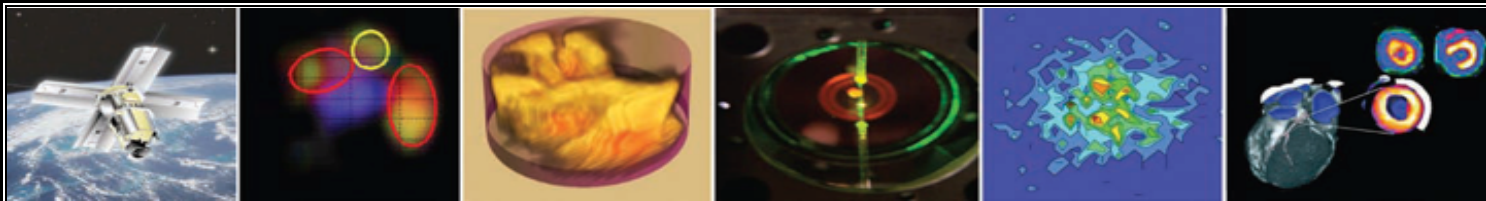
08:00 – 09:30	Applications of RF to National Security Interests (William Junor)
09:30 – 12:00	Group Collaboration (work areas)
12:00 – 01:00	<i>Lunch</i> (on your own)
01:00 – 02:30	Proposal Writing (David Clark)
02:30 – 04:00	Group Collaboration (work areas)
04:00 – 05:00	Reconvene as Group for Brainstorming Session, Suite 300 Break Room

Wednesday, April 15, 2015

08:00 – 12:00	Group Collaboration (work areas)
12:00 – 01:00	<i>Lunch</i> (on your own)
01:00 – 02:30	Metallurgy of Additive Manufacturing (Thomas Lienert)
02:30 – 03:30	Group Collaboration
03:30 – 05:00	Multiscale Image Decomposition & Analysis of Shapes (Lakshman Prasad)

Thursday, April 16, 2015

08:00 – 09:30	Making Next Generation Biofuel Systems Work; it's all in the Biomass (Richard Sayre)
09:30 – 12:00	Group Collaboration (work areas)
12:00 – 01:00	<i>Lunch</i> (on your own)
01:00 – 02:30	Proposal Writing and Living in Northern NM (Bill Priedhorsky)
02:30 – 05:00	Group Collaboration (work areas)



Friday, April 17, 2015

08:00 – 09:30	ARPA-E Perspective on Writing Proposals (Michael Kane)
09:30 – 12:00	Group Collaboration (work areas)
12:00 – 01:00	<i>Lunch</i> (on your own)
01:00 – 02:30	Giving Presentations and Preparing Lectures for Students with Active Learning (Phil Cornwell)
02:30 – 05:00	Group Collaboration (work areas)

Monday, April 20, 2015

08:00 – 09:00	Group Collaboration (work areas)
09:00 – 10:30	Modeling Additive Manufacturing/Welding (Tarasankar DebRoy)
10:30 – 12:00	Group Collaboration (work areas)
12:00 – 01:00	<i>Lunch</i> (on your own)
01:00 – 02:30	Tech Transfer (Kathleen McDonald)
02:30 – 05:00	Group Collaboration (work areas)

Tuesday, April 21, 2015

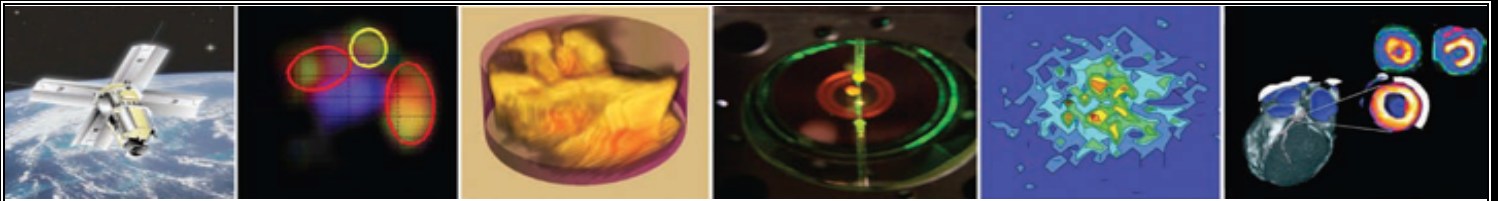
08:00 – 09:30	GET Test-out, Otowi Bldg, Room P180
09:30 – 12:00	Group Collaboration (work areas)
12:00 – 01:00	<i>Lunch</i> (on your own)
01:00 – 02:30	Acoustic Resonance Spectroscopy (Albert Migliori)
02:30 – 05:00	Group Collaboration (work areas)

Wednesday, April 22, 2015

08:00 – 09:30	Neutron Radiography-Opportunities & Examples (Mark Bourke)
09:30 – 12:00	Group Collaboration (work areas)
12:00 – 01:00	<i>Lunch</i> (on your own)
01:00 – 02:30	International Collaborations (Momchilo Vuyisich)
02:30 – 05:00	Group Collaboration (work areas)

Thursday, April 23, 2015- Penta Chart Due at 5:00PM

08:00 – 09:30	Air, Land and Body-borne Sensors: Knowledge Discovery through Ambient Inferencing (Pei Zhang)
09:30 – 12:00	Group Collaboration (work areas)
12:00 – 01:00	<i>Lunch</i> (on your own)
01:00 – 02:30	Design Thinking (David Mascareñas)
02:30 – 05:00	Group Collaboration (work areas)



Friday, April 24, 2015

- 08:00 – 09:30 High Performance Control Using Low-Performance Infrastructure
 (Todd Murphey)
- 09:30 – 12:00 Group Collaboration (work areas)
- 12:00 – 01:00 *Lunch* (on your own)
- 01:00 – 02:30 Excellence in Instruction as Proof of Excellence in Research
 (Todd Murphey)
- 02:30 – 05:00 Group Collaboration (work areas)

Monday, April 27, 2015

- 08:00 – 09:30 Mobile Brain Imaging & Psychopathy (Kent Kiehl)
- 09:30 – 12:00 Group Collaboration (work areas)
- 12:00 – 01:00 *Lunch* (on your own)
- 01:00 – 02:30 Management Panel (Dan Rees, Steve Girrens, John Erickson)
- 02:30 – 05:00 Group Collaboration (work areas)

Tuesday, April 28, 2015-ER Proposal Due

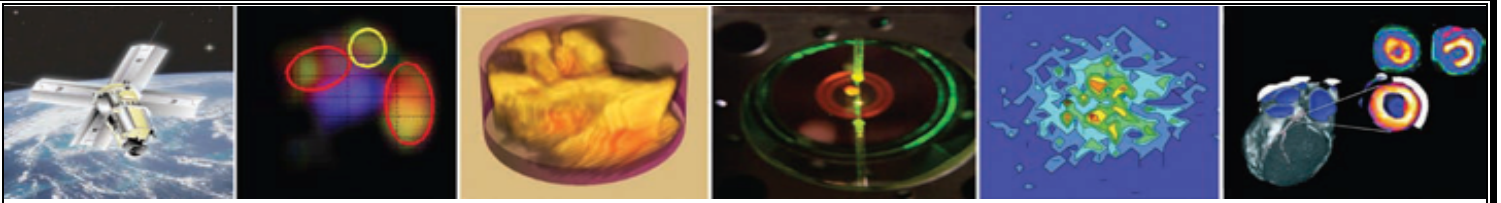
- 08:00 – 09:30 Molecular Biology and Recent Breakthroughs in Bacterial Expression at UC
 (Danielle Tullman-Ercek)
- 09:30 – 12:00 Group Collaboration (work areas)
- 12:00 – 01:00 *Lunch* (on your own)
- 01:00 – 02:30 Building a Research Program within a National Laboratory Setting
 (Michelle Espy)
- 02:30 – 05:00 Group Collaboration (work areas)

Wednesday, April 29, 2015

- 08:00 – 12:00 Machine Learning over Simulation Data (Paul Welch)
- 12:00 – 01:00 *Lunch* (on your own)
- 01:00 – 02:30 Faculty Life at a Research University: What to Expect and How to Survive
 (Mike Todd)
- 02:30 – 05:00 Group Collaboration (work areas)

Thursday, April 30, 2015-Presentations Due

- 08:00 – 10:00 Prepare for Proposal Presentations
- 10:30 – 12:00 Proposal Presentations
- 12:00 – 01:00 *Lunch, Suite 300 Break Room* (will be provided)
- 01:00 – 02:30 Proposal Presentations



Friday, May 1, 2015

08:00 – 10:00	Feedback and Improvement Discussion
	- What worked, what didn't, and where can we improve?
10:30 – 12:00	Wrap-up
12:00	Departure
